

**REMARKS**

Claims 1-13 are now pending in this application. Claims 1, 7, 10 and 25 have been amended in this response. Claims 8, 17 and 26 have been cancelled. Applicant respectfully submits no new matter has been added. Reconsideration is respectfully requested in view of the following remarks.

Claims 1-13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. 2002/0067535 to Trezza (“Trezza”) in view of Goldys et al. reference (“Goldys”). The Office Action states that Trezza describes an array of asymmetrical quantum well light modulators, but fails to disclose a stepped quantum well. The Examiner cites to Goldys for teaching a stepped quantum well and states that it would have been obvious to combine Trezza and Goldys to achieve the subject matter of claims 1 and 9. In regard to claims 2-7 and 8-13 which depend from claims 1 and 9 respectively, the Office Action further states that Trezza teaches a hybridized array, i.e., geometry of structure used a grating with periodic array of pixels disclosed in paragraph 0022 and that the patterns and processes of making them are known to one skilled in the art.

To establish *prima facie* obviousness of a claimed invention, all claims limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974). Applicants respectfully submit that although Trezza may discuss quantum well light modulators and Goldys may discuss stepped quantum wells, however neither reference, either individually or in combination, discuss or teach the use of

intersubband transitions, as recited in claims 1 and 9. In contrast, the prior art merely teaches the use of interband transitions, see Goldys, p. 1086, col. 2. Furthermore, the present invention, as recited in claims 1 and 9, includes the use of a voltage bias applied across the modulator array where this charge transfer mechanism is used to modulate light. In contrast, Goldys teaches the use of the Stark effect to modulate light. The Stark effect changes the shape of the well and does not transfer charge as recited in claims 1 and 9.

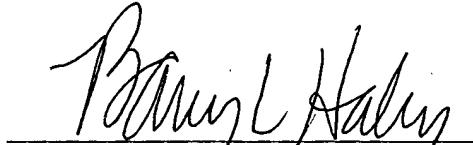
Accordingly based on the foregoing, the combination of Trezza and Goldys does not disclose, teach or suggest each element of claims 1 and 9 and therefore do not render claims 1 and 9 obviousness in view thereof. Claims 1 and 9, therefore, stand allowable. Claims 2-8 and 10-13 respectively depend from claims 1 and 9, and therefore stand allowable for at least the same reasons as set forth in regard to claims 1 and 9.

**CONCLUSION**

Based upon the foregoing amendment and remarks, Applicants respectfully submit that the pending claims are in condition for allowance. Prompt allowance of all pending claims is therefore requested.

If there are any additional charges, including extension of time, please bill our Deposit Account No. 13-1130.

Respectfully submitted,

  
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